

CLAIMS

WHAT IS CLAIMED IS:

1. A light source, comprising:
an LED that emits excitation light;
5 a polymeric multilayer reflector that reflects the excitation light and transmits visible light; and
a layer of phosphor material spaced apart from the LED, the phosphor material emitting visible light when illuminated with the excitation light;
wherein, the polymeric multilayer reflector reflects excitation light onto the
10 phosphor material and the layer of phosphor material is disposed between the LED and the polymeric multilayer reflector.
2. The light source according to claim 1, wherein the excitation light comprises UV light.
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3. The light source according to claim 1, wherein the excitation light comprises blue light.
4. The light source according to claim 1, wherein the layer of phosphor material
20 further comprises an adhesive.
5. The light source according to claim 1, wherein the polymeric multilayer reflector comprises a polymeric material that resists degradation when exposed to UV light.
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6. The light source according to claim 1, wherein the polymeric multilayer reflector is a polymeric material substantially free of inorganic materials.

7. The light source according to claim 1, wherein the layer of phosphor material is a discontinuous layer of phosphor material.
8. The light source according to claim 7, wherein the discontinuous layer of phosphor material is a plurality of lines of phosphor material or a pattern of phosphor material.
9. The light source according to claim 7, wherein the discontinuous layer of phosphor material comprises a plurality of dots of phosphor material.
10. The light source according to claim 9, wherein the plurality of dots of phosphor material each have an area of less than 10000 microns².
11. The light source according to claim 9, wherein the plurality of dots comprise phosphor material that emits more than one color when illuminated with the excitation light.
12. The light source according to claim 9, wherein the plurality of dots comprise phosphor material that emits red, green and blue light when illuminated with the excitation light.
13. The light source according to claim 1, wherein the polymeric multilayer reflector comprises alternating layers of a first and second thermoplastic polymer wherein at least some of the layers are birefringent.
14. The light source according to claim 9, wherein at least a first phosphor dot emits light at a first wavelength and a second phosphor dot emits light at a second wavelength different than the first wavelength.